

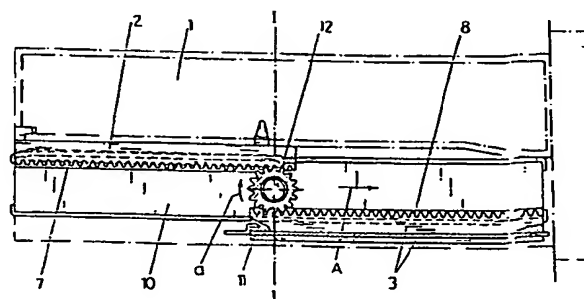
(12) UK Patent Application (19) GB (11) 2 022 992 A

- (21) Application No 7920625
- (22) Date of filing 13 Jun 1979
- (23) Claims filed 13 Jun 1979
- (30) Priority data
- (31) 4287/78
7767/78
- (32) 13 Jun 1978
31 Oct 1978
- (33) Austria (AT)
- (43) Application published
28 Dec 1979
- (51) INT CL²
A47B 88/08
- (52) Domestic classification
A4B 12D 15B 15C 19
- (56) Documents cited
GB 877452
GB 859042
- (58) Field of search
A4B
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(54) Improvements in or relating to telescopic drawer slides

(57) A 'movement-equalised' telescopic drawer slide mechanism comprises a first slide member 2 attached to the drawer 1 and a second slide member 3 attached to the side wall of the cabinet, both slide members being elongate and have a running surface for a roller 11 mounted in the middle of an intermediate rail 10, the holding members 2,3, each having a rack profile 7,8, and the roller having teeth.

Fig. 1



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Fig. 2

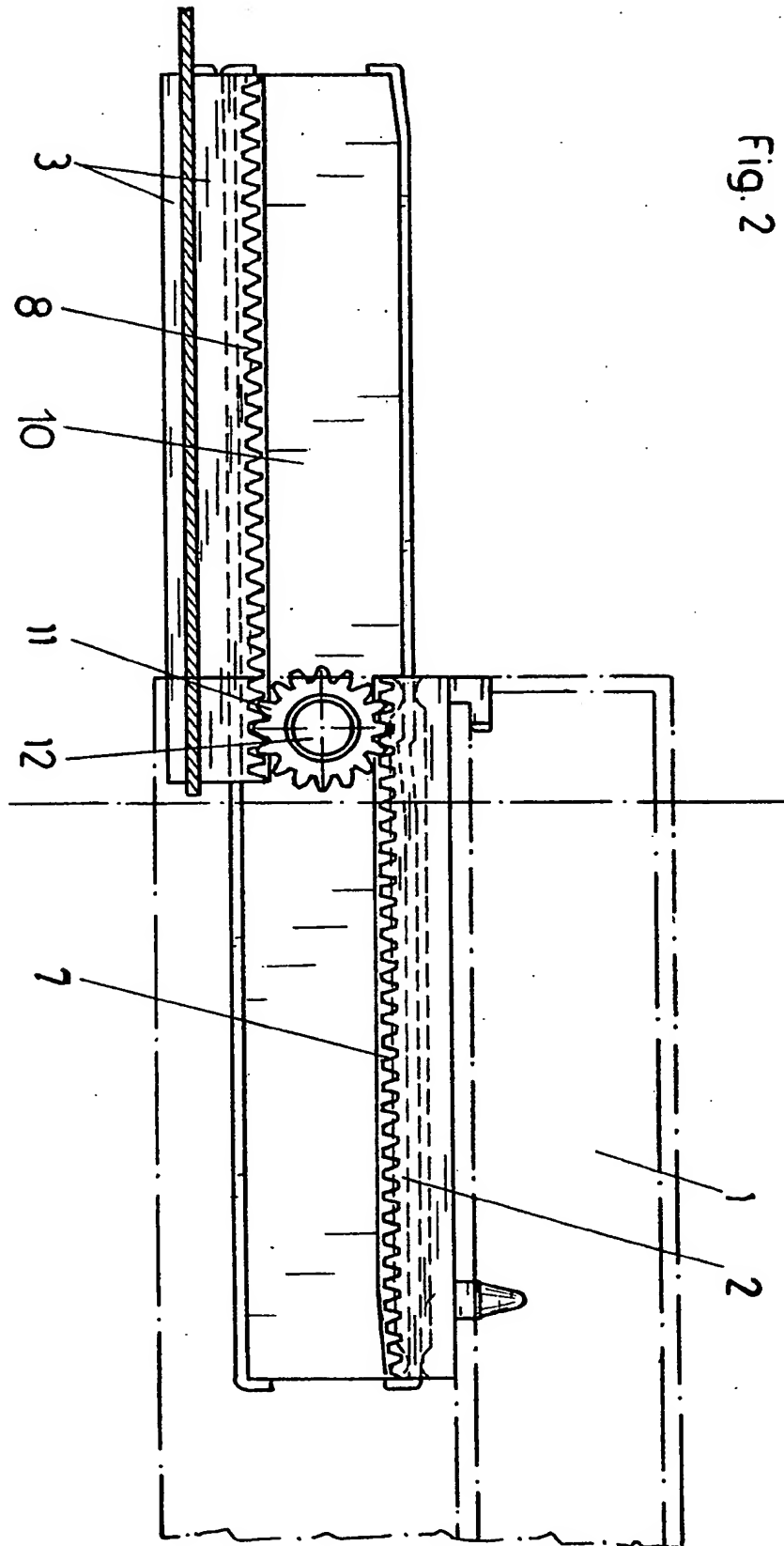


Fig. 3

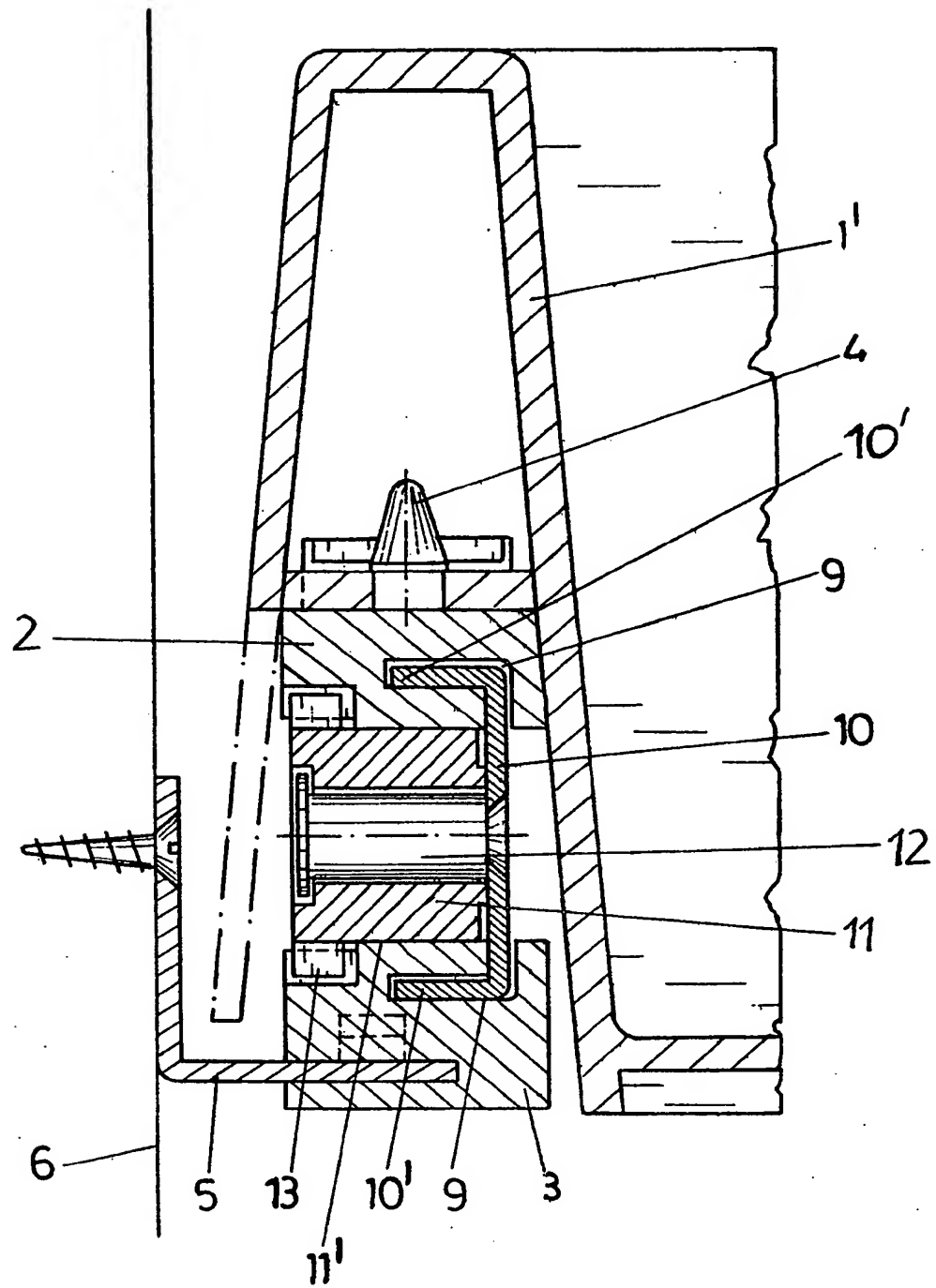


Fig. 4

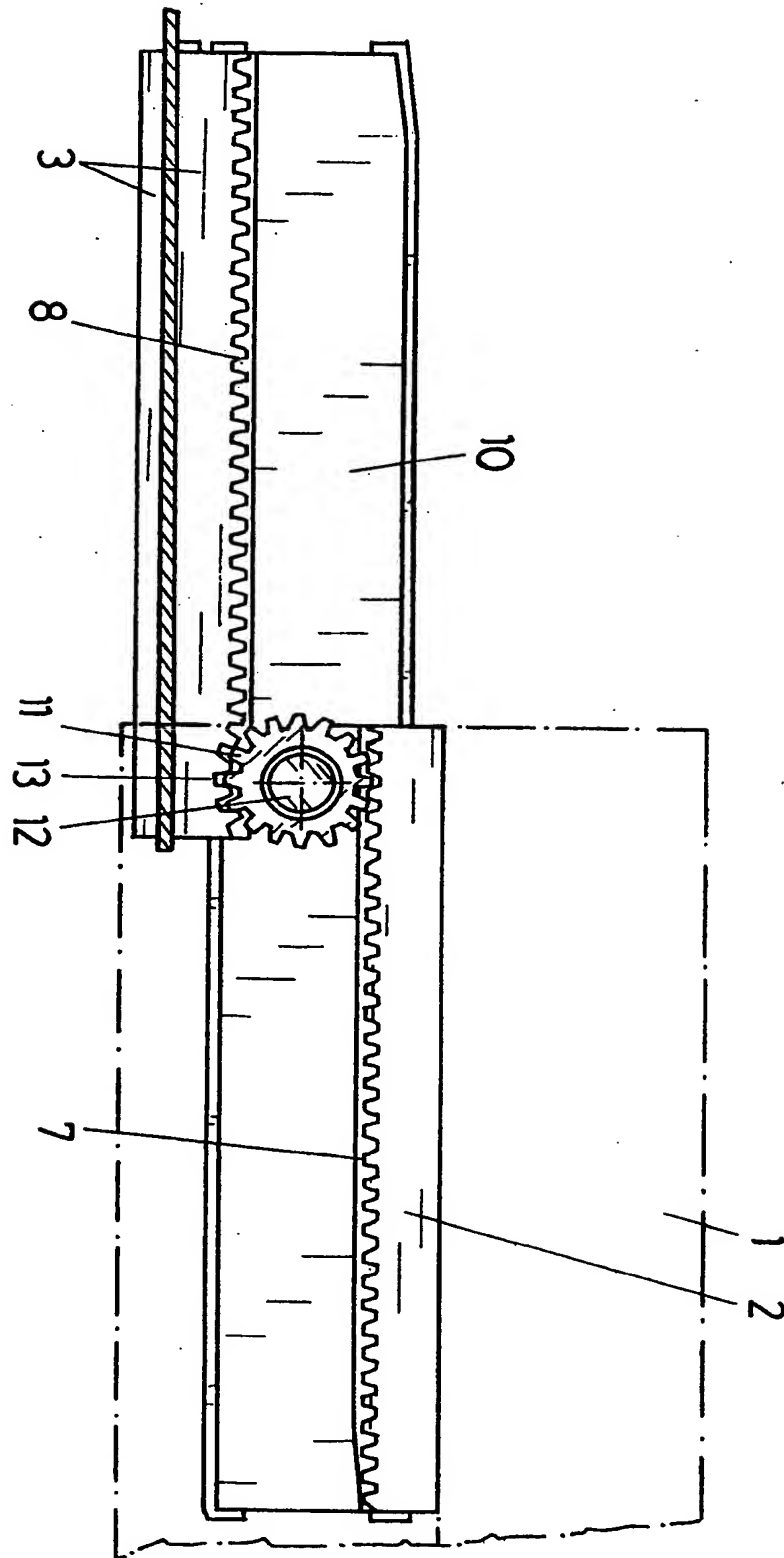
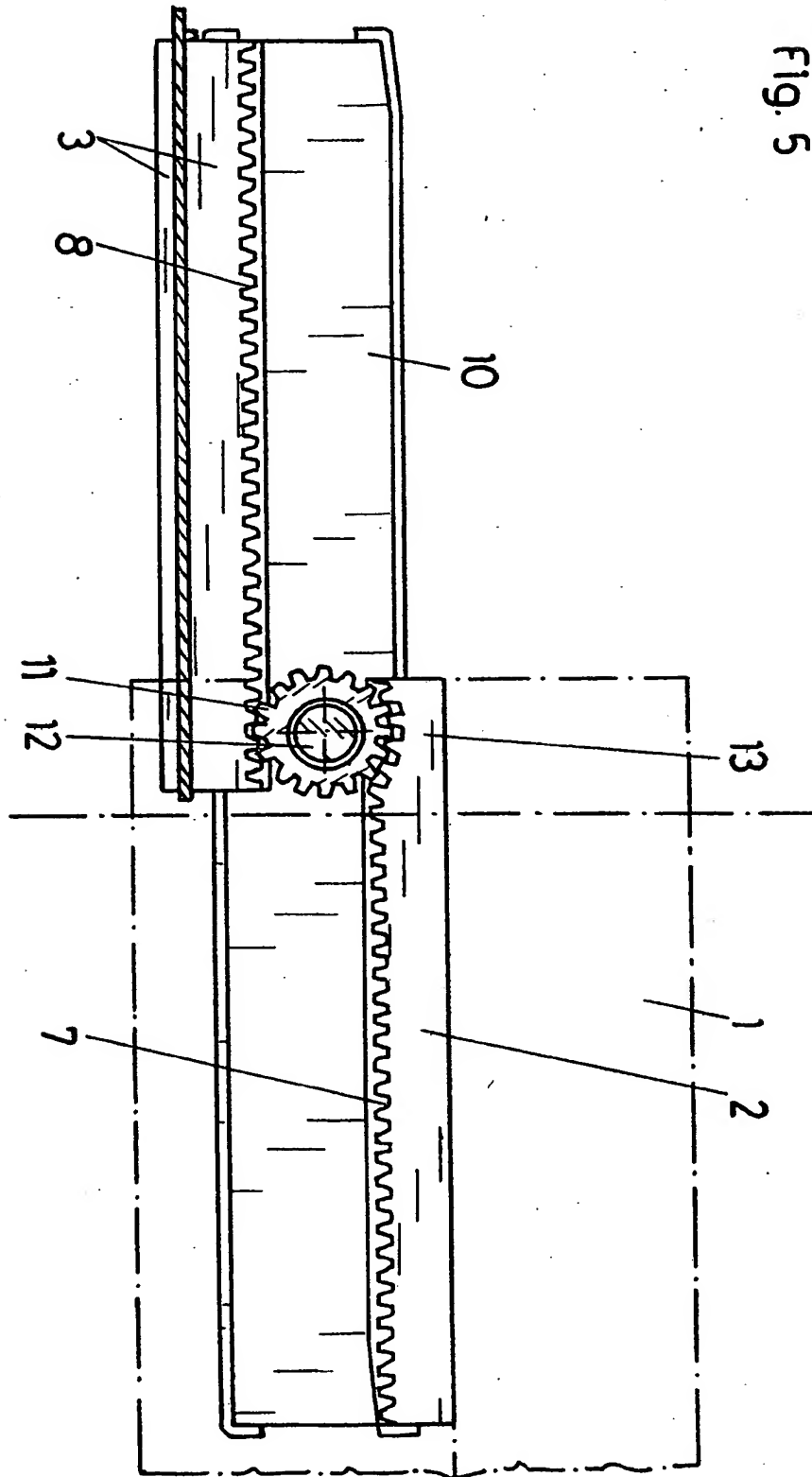


Fig. 5



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Fig. 6

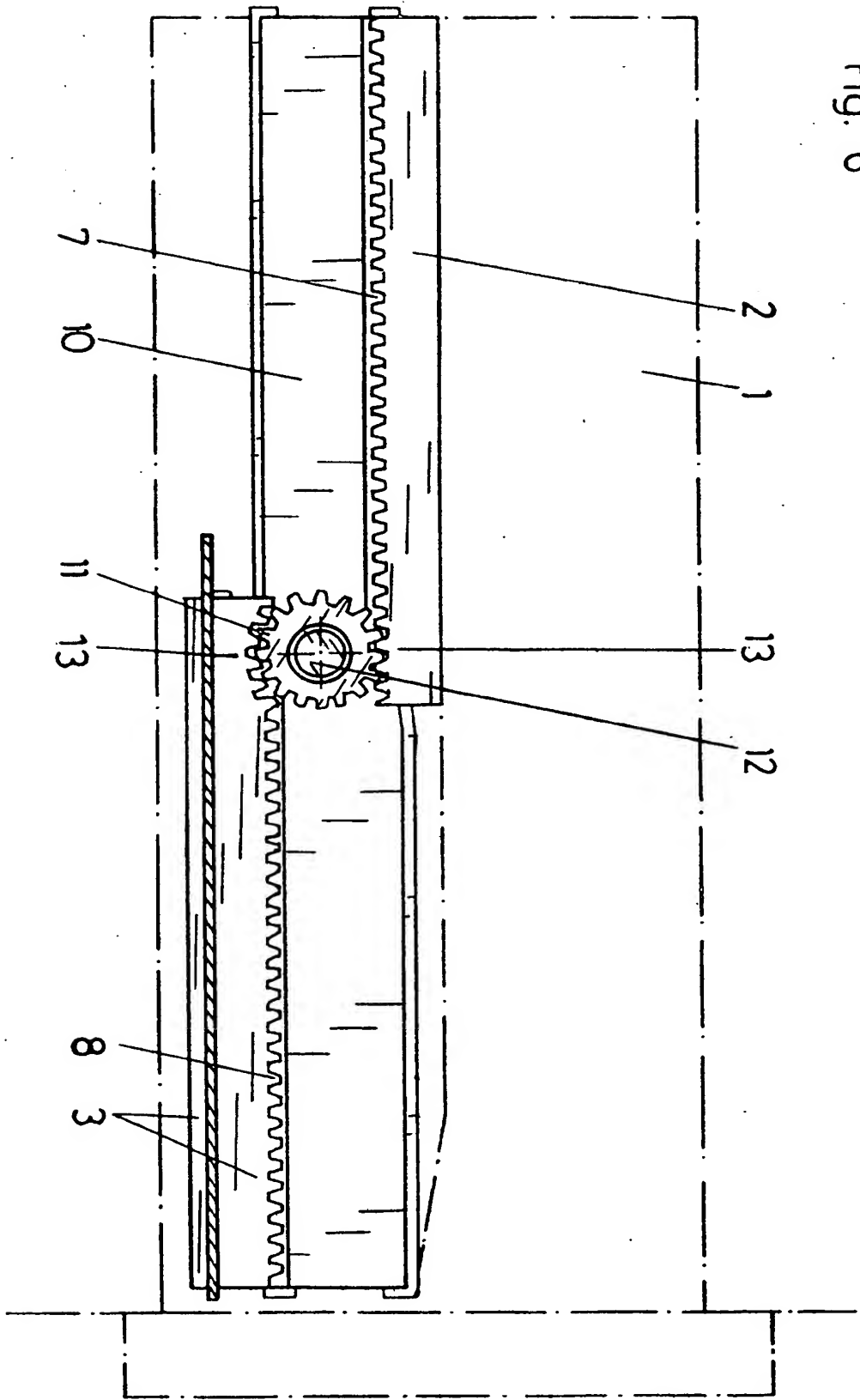
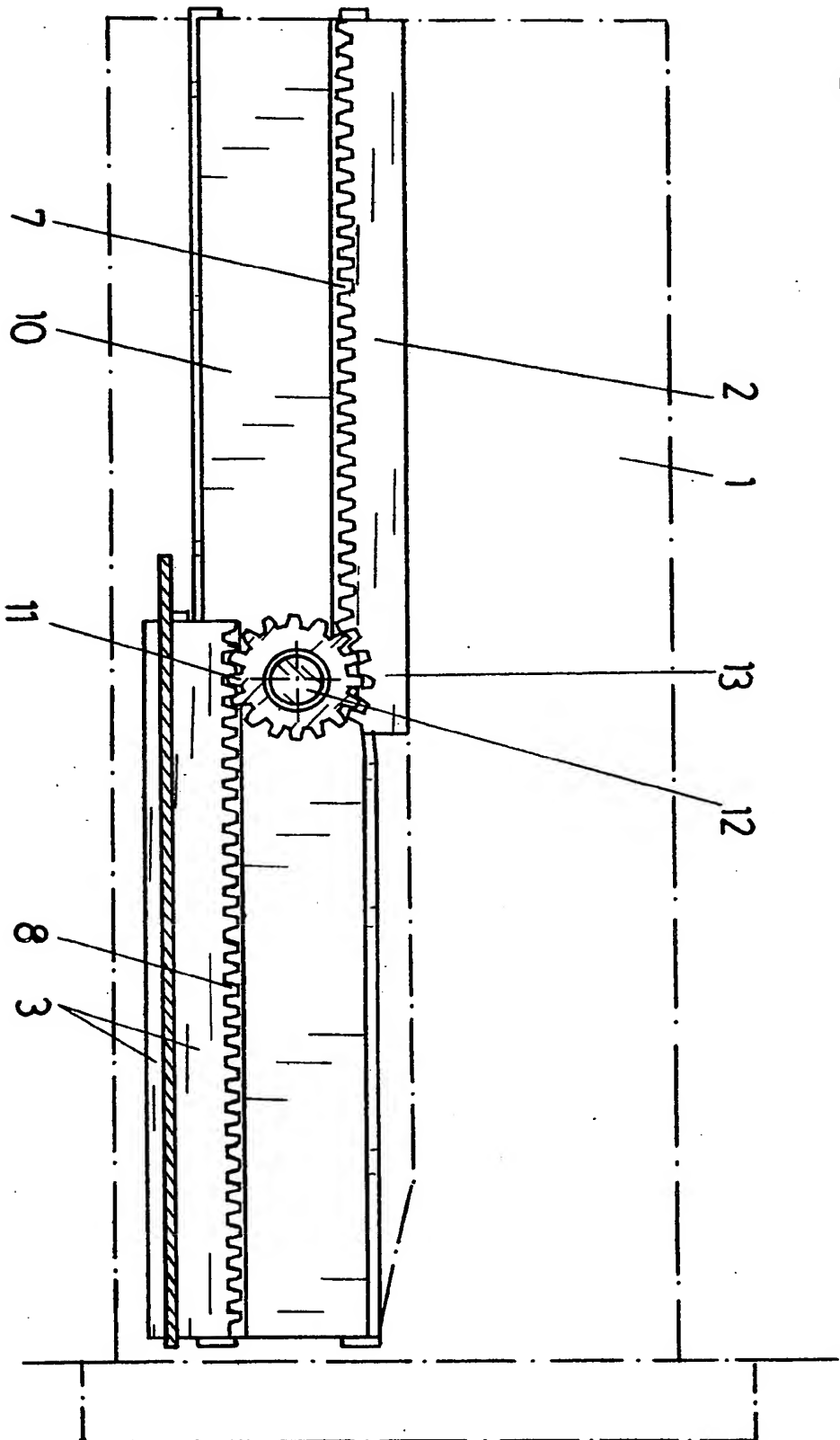


Fig. 7



SPECIFICATION

Improvements in or relating to pull-out guides for drawers

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The invention relates to pull-out guides for drawers. Such a guide may comprise a rail movably mounted on either side of the drawer between holding members disposed on the side of the body and on the side of the drawer, the rail making a relative movement with respect to the body as well as with respect to the drawer when the drawer is pulled out or pushed in.

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Such pull-out guides are widely used in modern furniture production, particularly in the production of kitchen and office furniture. It is their task to facilitate the moving of the drawer. Moreover, it is their task to hold the drawers in the body of the cabinet or the like and prevent their tilting over in the pulled-out position.

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In order to give free access to objects in the drawer, it should be possible to pull the drawer fully or almost fully clear of the body of the piece of furniture.

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According to the invention, there is provided a pull-out guide for a drawer, comprising a rail movably mounted on each side of the drawer between holding members disposed on the side of a body and on the side of the drawer, the rail being arranged to make a relative movement with respect to the body and with respect to the drawer when the drawer is pulled out or pushed in, a wheel being fastened to the centre of the rail and being arranged to move differentially between the holding members on the side of the body and on the side of the drawer.

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It is thus possible to provide a pull-out guide in which the movement in the intermediate rail is uniform and controlled.

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The rail preferably moves exactly half the path of the drawer when the drawer is pulled out of the body of a piece of furniture or pushed in.

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Preferably, each of the holding members has a rack profile, and the wheel mounted in the centre of the rail is a cog wheel engaging the rack profiles of the holding members.

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By means of this embodiment a restrained guiding of the holding member on the side of the body and on the side of the drawer is obtained.

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Preferably, the wheel has a toothed ring extending over only a part of the wheel. In this embodiment, the holding means on the side of the body and on the side of the drawer move differentially and relative to each other on the tooth-free ring portion of the wheel. The cogs of the wheel only begin to function when there is a slip between the hub of the running surface of the upper and lower holding members. Thereby a particularly silent and easy running pull-out guide for drawers may be provided.

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Preferably, the rail has a U-profile and its two horizontal flanges project into guiding grooves of the holding members. Thereby the rail may be securely guided in the holding means and, above all, prevented from tilting.

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It is possible to provide higher stability for the drawer in one of its end positions, e.g. when fully

pushed into the body of a piece of furniture, or in both end positions, i.e. also when the drawer is fully pulled out of the body of the piece of furniture. Thus, it can be made difficult for the drawer to be unintentionally moved from its actual position. This may be achieved by providing a recess on at least one rack profile, the wheel engaging the recess, when the drawer is in one of its two end positions. The recess may be bow-shaped. The front and rear edges of the recess may be at the frame level.

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When the rack profile on the side of the body has a recess at its front and/or when the rack profile on the side of the drawer has a recess at its rear the drawer is secured in its pulled-out position. This is of advantage, when objects are being placed into the drawer, as the drawer cannot be moved into the body of the piece of furniture by exerting only slight pressure.

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The invention will be further described by way of example, with reference to the accompanying drawing in which:

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Figure 1 shows a schematic side view of a pull-out guide, when a drawer is closed;

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Figure 2 shows the same view as *Figure 1*, when the drawer is pulled out;

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Figure 3 shows a section along line I-I of *Figure 1*;

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Figure 4 and 5 show schematic views of two embodiments, when the drawer is pulled out, and *Figures 6 and 7* show schematic views of two further embodiments when the drawer is pushed in.

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A drawer 1 is provided with a holding member 2 at its rear half. At its front part, more precisely extending over more than the front half, a holding member 3 on the side of the body is fixed to a side-wall 6 of a piece of furniture.

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The holding member 2 is directly fixed to a plastics profile of the drawer side-wall 1' by means of tenons 4 moulded to the holding member 2. The holding member 3 is fastened to the furniture side-wall 6 by means of a fastening rail 5.

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The two holding members 2 and 3 are rail-like, respective ones of their rims being provided with rack profiles 7, 8. Both holding members 2, 3 are provided with guiding grooves 9 having L-profiles. A rail 10 is mounted with its horizontal flanges 10' in the guiding grooves 9. A wheel 11 is mounted on a bolt 12 in the centre of the rail 10.

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The wheel 11 has a toothed ring 13 extending only over a small portion of the surface 11' of the wheel 11. The tooth-free portion of the surface 11' of the wheel 11 serves as an ordinary roller between the holding member 3 on the side of the body and the holding members 2 on the side of the drawer.

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When the drawer 1 is pushed in, the holding members 2, 3, the rail 10 and the wheel 11 are in position illustrated in *Figure 1*. When the drawer is opened, the wheel 11 is turned in the direction of the arrow *a* by means of the holding member 2. The wheel 11 and the rail 10 move in the direction of arrow *A* until reaching the position illustrated in *Figure 2*, when the drawer 1 is fully pulled out.

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When the rear of the rack profile 8 on the side of the body and/or the front of the plastics profile 7 on the drawer are provided with recesses 13, the drawer 1 must be slightly lifted when being pulled out, thus

necessitating a stronger pull on the drawer 1. If the drawer 1 is not fully pushed into the body of the piece of furniture then it is automatically drawn into the body, when the wheel 11 reaches the region of

5 the recess 13 or recesses 13.

The part of the holding member 2 or 3 in the region of the recess 13 must also have a recess, which can be greater than the recess 13 of the rack profiles 7 or 8. The holding members 2, 3 adjacent to

10 the rack profile can be broken away. It is of importance that the toothed ring of the wheel 11 can unhinderedly engage the recess 13.

CLAIMS

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1. A pull-out guide for a drawer, comprising a rail movably mounted on each side of the drawer between holding members disposed on the side of a body and on the side of the drawer, the rail being

20 arranged to make a relative movement with respect to the body and with respect to the drawer when the drawer is pulled out or pushed in, a wheel being fastened to the centre of the rail and being arranged to move differentially between the members on the

25 side of the body and on the side of the drawer.

2. A pull-out guide as claimed in claim 1, wherein each of the holding members has a rack profile and the wheel fixed to the centre of the rail is a cog wheel which engages the profiles of the holding members.

30 3. A pull-out guide as claimed in claim 2, wherein the wheel has a toothed ring extending over only a part of the wheel.

4. A pull-out guide as claimed in any one of the preceding claims wherein the rail has a U-profile and

35 whose two horizontal flanges project into guiding grooves of the holding members.

5. A pull-out guide as claimed in claim 2 or 3 in claim 4 when dependent or claim 2 or 3, wherein at least one end of at least one of the rack profiles is

40 provided with a recess arranged so that the wheel engages the recess when the drawer is in one of its two end positions.

6. A pull-out guide as claimed in claim 5 wherein the recess is bow-shaped.

45 7. A pull-out guide as claimed in claim 5 or 6, wherein the front and rear edges of the recess are at the same level.

8. A pull-out guide substantially as hereinbefore described with reference to and as illustrated in the

50 accompanying drawing.

9. A piece of furniture including a drawer and a pull-out guide as claimed in any one of the preceding claims.